

Claims

[c1] What is claimed is:

1. An optical disk drive for driving an optical disk, wherein the optical disk has a center hole, the optical disk drive comprising:
a base for holding the optical disk;
a protrusion protruding out from the base for that extends through the center hole when carrying the optical disk; and
at least one hook rotatably installed on the protrusion; wherein when the disk drive stops, the hook is retracted to within the edge of the protrusion and when disk is rotated up to a predetermined speed, the hook extends out from the edge of the protrusion to hook the optical disk.

[c2] 2. The device of claim 1 further comprising a plurality of elastic components respectively connected to one hook.

[c3] 3. The device of claim 2 wherein in low speed rotation or a stop mode, the plurality of elastic components retract the hooks to within the edge of the protrusion to have the hooks leave from the optical disk.

- [c4] 4. The device of claim 2 wherein the plurality of elastic components are springs.
- [c5] 5. The device of claim 1 wherein the hooks are magnetic hooks, and the protrusion further comprises a magnet to attract the hooks.
- [c6] 6. The device of claim 5 wherein in low speed rotation or a stop mode, the magnet retracts the hooks to within the edge of the protrusion by magnetic attraction to have the hooks leave from the optical disk.
- [c7] 7. The device of claim 1 wherein in low speed rotation or a stop mode, the hooks are retracted to within the edge of the protrusion by their own weight to leave from the optical disk.
- [c8] 8. The device of claim 1 wherein in high speed rotation, the hooks rotate and extend out to hook the optical disk by the centrifugal force obtained by the rotation.
- [c9] 9. The device of claim 1 wherein the base is a tray slidably installed in a housing of the optical disk drive.
- [c10] 10. An optical disk drive for driving an optical disk, wherein the optical disk has a center hole, the optical disk drive comprising:
a base for holding the optical disk;

a protrusion protruding out from the base that extends through the center hole of the optical disk when carrying the optical disk; and
at least one hook slidably installed on the protrusion, wherein when the disk drive stops, the hook is retracted to within the edge of the protrusion and when disk is rotated up to a predetermined speed, the hook extends out from the edge of the protrusion to hook the optical disk.

[c11] 11. The device of claim 10 wherein the hooks are magnetic hooks, and the protrusion further comprises a magnet to attract the hooks.

[c12] 12. The device of claim 11 wherein in low speed rotation or a stop mode, the magnet retracts the hooks to within the edge of the protrusion by magnetic attraction to have the hooks leave from the optical disk.

[c13] 13. The device of claim 10 wherein in high speed rotation, the hooks slide and extend out to hook the optical disk by the centrifugal force obtained by the rotation.

[c14] 14. The device of claim 10 wherein the base is a tray slidably installed in a housing of the optical disk drive.